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ABSTRACT

The paper provides a brief survey of the rationale for and problems associated with performance-based teacher education (PBTE). Reviewing the research and activities of the Center for Vocational and Technical Education (Ohio State), the document identifies five elements that appear to distinguish PBTE from more traditional programs. These elements relate to: student competencies; criteria for assessing competencies; assessment of the student's competency; the student's rate of progress; and the intention of the instructional program. For the implementation of PBTE, six issues, and six strategies for dealing with the issues, are identified and discussed briefly. The issues and strategies relate to: identification of competencies; instructional materials; roles of faculty and students; interaction with various groups, institutions, and agencies; instructional support; and costs. (PR)

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# PERFORMANCE-BASED TEACHER EDUCATION CURRICULA: IMPLICATIONS FOR PROGRAMS

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# PERFORMANCE BASED TEACHER EDUCATION CURRICULA: IMPLICATIONS FOR PROGRAMS

By: Curtis R. Finch
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## Overview

In recent years, there has been much concern expressed about the process of preparing teachers. Teacher educators, teachers, and others such as Koerner (1963) and Conant (1963) have discussed many shortcomings associated with the "traditional" teacher preparation process. These shortcomings include, but are not limited to: (1) teacher education curricula are not built upon the actual work requirements of teachers; (2) instruction is not tailored to meet the needs of individuals; (3) learning experiences are not provided which relate directly to professional needs; and (4) the educational product is not systematically evaluated. Although one would expect major improvements to occur in teacher education over the past decade, this does not appear to be the case. For example, in a study conducted by the National Education Association (1967), a national sample of teachers was asked to evaluate their undergraduate teacher preparation in terms of success in teaching. Although knowledge specialization fields and general education were considered by teachers to have been adequately covered and of reasonable quality, the professional aspects of teaching were said to be less than adequately covered. These included teaching methods, classroom management, classroom discipline, and the use of audiovisual materials and equipment in instruction.

More recently, an Ohio study conducted by Ryan and others (Commission, 1972) found that:

1. Coursework for potential teachers is often inadequate and lacks relevance to the specific task of preparing students for the realities of teaching.

2. Personnel involved in the preparation of teachers are too often ill-prepared for the task and remote from the world of teaching practice.

3. Teaching candidates are too quickly exposed to full teaching responsibilities and lack the opportunity to gradually gain competence in their new professional role.

Although it is easy to place blame for these deficiencies upon teacher educators, it should be recognized that the colleges and universities in which they must function tend to be conservative in their approach to professional education. Teacher educators have been constrained by a combination of forces such as course structure, certification requirements, credit hours, and a general lack of

direction. As Robb (1968) points out, "The task of teacher education was not properly conceptualized from the onset and we have been a long time overcoming that handicap. Very early we compromised with quality and settled for a hodgepodge of teachers ranging all the way from the stunningly effective to the not-so-warm bodies."

Apparently, minor modifications will not suffice to change the process of preparing professionals for their respective teaching roles. Traditional practices need to be displaced by a more systematic approach to professional development; one which focuses on eliminating many of the present teacher preparation practices and replacing them with an instructional environment that is performance or competency-based.

## Characteristics Of Performance-Based Teacher Education Programs

Some disagreement exists as to what the antecedents of performance-based teacher education (PBTE)[1] actually were. There is certainly little doubt that emphasis on the specification of behavioral objectives and individualized instruction has left its mark on the performance-based instruction movement. However, the main thrust as it relates to teacher education seems to have been generated by the U.S.O.E. Elementary Models Projects. Houston and Howsam (1972) indicate that "each of the ten models relatively independently arrived at an emphasis on competencies. Since then, with impetus from a variety of sources, pilot projects have sprung up in a rapidly increasing number of institutions." In fact, the PBTE movement has gained such momentum that, at the present time, eleven states have mandated performance-based programs for the preparation of teachers while a number of others are contemplating this action (Wilson and White, 1973).

What then are the parameters of this important movement? A most meaningful statement on the subject is that published by the American Association of Colleges of Teacher Education (AACTE) in 1971 (Elam, 1971). This AACTE publication specifies certain elements that are considered generic to any program that may be defined as being performance-based by the AACTE Committee on Performance-Based Teacher Education. The five elements that appear to distinguish PBTE from other programs are:

1. Competencies (knowledge, skills, behaviors) to be demonstrated by the student are:

   a. derived from explicit conceptions of teacher roles,

   b. stated so as to make possible assessment of a student's behavior in relation to specific competencies, and

   c. made public in advance.

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[1] For purposes of this paper "performance-based" and "competency-based" are considered to be synonymous.

2. Criteria to be employed in assessing competencies are:

   a. based upon, and in harmony with, specified competencies,

   b. explicit in stating expected levels of mastery under specified conditions, and

   c. made public in advance.

3. Assessment of the student's competency:

   a. uses his/her performance as the primary source of evidence,

   b. takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behavior, and

   c. strives for objectivity.

4. The student's rate of progress through the program is determined by demonstrated competency rather than by time or course completion.

5. The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified.

Several additional elements are related and desirable characteristics of PBTE programs. These include: (1) instruction is individualized and personalized; (2) the learning experience of the individual is guided by feedback; (3) the program as a whole is systematic; (4) emphasis is on exit, not on entrance requirements; (5) instruction is modularized; (6) the student is held accountable for performance. Although these elements are implied aspects of PBTE, many have been associated with sound instructional practice for some time.

The elements specified by AACTE aid greatly in the formulation of an explicit definition of performance-based teacher education and, at the same time, reflect the extent to which it differs from traditional teacher education. One may readily observe that PBTE places a great deal of emphasis on the identification, attainment, and assessment of teaching competencies. If, for example, we were to compare a typical traditional program with a typical PBTE program, Table 1 could be used to illustrate some inherent differences between them. Although some may raise issue with the comparison, it does reflect PBTE's focus on explicit teacher competencies as opposed to general statements of achievement. PBTE programs appear different from traditional programs in terms of several basic characteristics: explication of competencies to be attained, assessment criteria and procedures, student orientation, and instructional intent. These differences are what makes PBTE both an exciting and a controversial movement.

TABLE 1

Comparison of a "Typical" Traditional and a "Typical" PBTE Program

| Characteristics | Traditional Program | PBTE Program[1] |
|---|---|---|
| 1. Competencies to be demonstrated by the student are: | · derived from committee consensus<br>· stated in general terms<br>· seldom made public | · derived explicit concepts of teacher roles<br>· stated so that competence may be assessed<br>· made public in advance |
| 2. Criteria to be employed in assessing competencies are: | · based upon general program objectives<br>· general in stating mastery levels<br>· seldom made public | · based upon specified competencies<br>· explicit in stating levels of mastery under specified conditions<br>· made public in advance |
| 3. Assessment of the student's competency | · uses his course grades as evidence of competence<br>· may include his performance as well as knowledge<br>· may focus on objectivity | · uses his performance as evidence of competence<br>· takes student knowledge as it relates to performance into account<br>· strives for objectivity |
| 4. Student rate of progress through program is determined by: | · time of course completion | · demonstrated competency |
| 5. Instructional program is intended to: | · facilitate student achievement of certain general program objectives | · facilitate development and evaluation of student achievement of specified competencies |

[1]from Elam, 1971

## Implementation Of Performance Based Teacher Education: Issues

If one agrees with the basic tenets of PBTE (or at least tolerates them), thought immediately shifts to more practical concerns, namely implementation. And it is this area that will probably affect the ultimate success or failure of the PBTE movement.

What then are some of the issues and problems associated with the implementation of performance-based teacher education? Although the authors of this paper recognize that it would be impossible to list all issues and problems and that there is some danger in categorizing them, it was decided to focus on six primary areas of concern. These areas, which are discussed in the paragraphs that follow, include: the identification of competencies; instructional materials; roles of faculty and students; interaction with various groups, institutions and agencies; instructional support; and costs. Although other areas such as evaluation and certification are equally important, it was decided not to focus directly on them as separate entities since they cut across many aspects of implementation.

### Identification Of Competencies

When a performance-based teacher education program is being developed or plans are being formulated for an existing program to move in this direction, a primary concern is with the identification of competencies. Since teacher competencies serve as a foundation for PBTE, errors at this point may result in the establishment of a program that lacks validity. One of the major criticisms leveled at some PBTE programs is that they merely "teach the same (and perhaps irrelevant) content with a new and improved framework (Sinatra, 1973)." This approach is perhaps best exemplified by the PBTE program as it was initially developed at Weber State College in Utah (Burke, 1972). Although Weber State did much pioneer work in establishing a functional program, there was little effort made to identify competencies that are actually needed by the successful teacher and to incorporate them into the curriculum. The key issue then seems to be that of identifying "real" competencies, that actually maximize the probability of teaching success. Closely associated with this issue is the establishment of priorities for competencies. Given a comprehensive listing of valid competencies, how can a teacher education institution select those that are most beneficial to the student (assuming that institutional constraints do not permit all to be taught)?

### Instructional Materials

As a college or university moves forward with the business of implementing PBTE, an immediate need is felt to obtain and/or develop instructional materials. These generally take the form of modules (learning packages) and supporting mediation (e.g., videotapes, films, reference materials). Although there is general agreement among those in PBTE as to what constitutes a module's component parts, several questions may be raised about what it should actually do. For example, does the module "deliver" on a certain important teacher competency or set of competencies? Is it functional and usable? Does it change teacher behavior? What are the effects of modularization on a grand

scale? These as well as others are legitimate questions which may be raised about instructional materials that are typically used in a PBTE program.

## Roles Of Faculty And Students

The roles of faculty and students will most certainly change when a PBTE program is implemented. Or, put another way, if faculty and student roles are not revised the program is probably doomed to failure. One may wrongly assume that change is a relatively simple task. In fact, people (particularly faculty members) may not be receptive to the idea of being involved in "another" new approach to teacher preparation. Faculty may be threatened by the thought of losing a little personal autonomy while students might not relish interacting with instructional packages. Indeed, all who will be associated with a PBTE program can raise meaningful questions about their respective roles.

## Interaction With Various Groups, Institutions, And Agencies

Closely aligned with the PBTE movement is the idea of increased interaction with various groups, institutions, and agencies. For example, performance-based certification being implemented in many states is serving to better align teacher education programs and certification requirements. Much collaborative work will surely need to be done before programs and certification are in alignment. Interaction with local education agencies will, likewise, be increased. PBTE has placed a great deal of emphasis upon field centered instruction where the student will apply principles he has learned in an actual school setting. This may include many more instances of "supervised teaching" than would normally be found in a traditional teacher education program. The implications for interaction with local education agencies are obvious and, in some cases, difficult to predict. Logistics associated with field-centered instruction are often extremely complex, especially for universities located in a more rural setting. Generally, areas in which increased interaction is necessary include teacher education institutions, local education agencies, state education agencies, and other interest groups (e.g., NEA, AFT, AVA NCATE, AACTE). Figure 1 represents the many persons, groups, institutions, and agencies that can interact with an ongoing teacher education program. With the implementation of PBTE comes a need for increased interaction that is largely due to variance from "the traditional." Persons implementing PBTE programs may certainly ask what needs to be done to insure that proper liaison actually takes place with those represented by Figure 1.

## Instructional Support

In order for any teacher education program to function properly, adequate instruction support must be provided. This may take the form of classroom space, audiovisual equipment, student records systems, resource centers, and similar items.

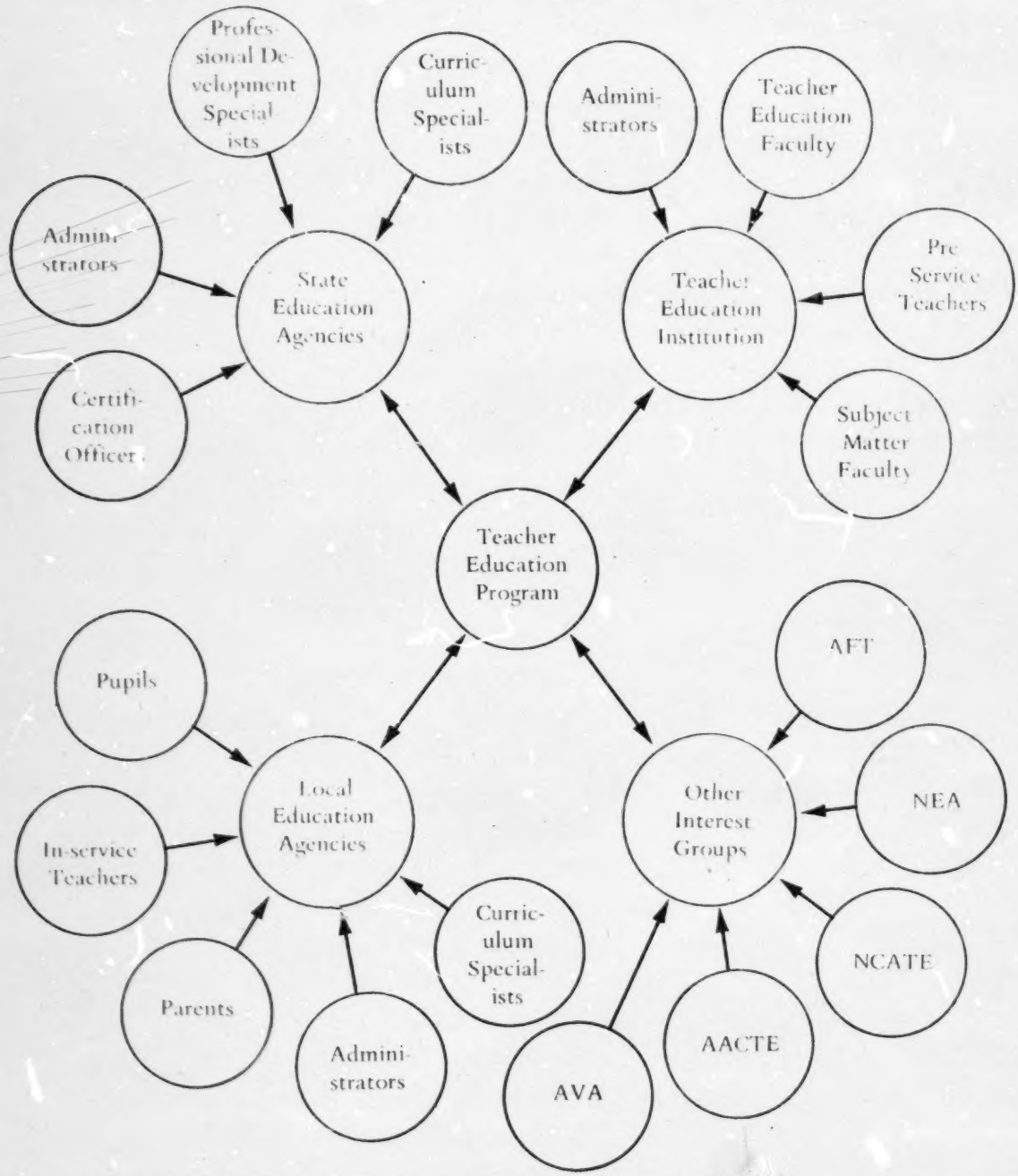


Figure 1. Some Groups, Institutions And Agencies Which May Interact With Teacher Education Programs

As with many instructional programs that break with tradition, PBTE requires that support be realigned to fit its unique needs. This realignment is, for the most part, necessitated because of a shift from traditional practices to mastery learning and individualized instruction. Since students will be learning at their own particular rates and demonstrated competence (rather than grades to serve as records of assessment), facilities must be available to meet their particular needs. Typically, a PBTE resource center, that contains relevant resources such as references and media, is made available to students. A resource person is generally located at the center to assist students in the completion of various module learning experiences. Of course, the lack of such a center may pose a problem to many teacher education institutions and some persons may question its practicality. Other potential problems in the instructional support area include, but are not limited to, making provisions for in-service teacher education, recording student mastery of various modules, and resolving conflicts between the academic calendar and variations in student progress.

## Costs

A final area of concern is PBTE program costs. Many persons have negative feelings about this important aspect of PBTE implementation, particularly in light of recent budgetary cuts at various colleges and universities across the country. The primary issue associated with costs seems to be one of comparisons between PBTE and traditional programs. Persons inquiring about PBTE generally ask how much more it will cost or how much more can they get for their investment. At this point in time it appears many are asking about increased institution budgets per se rather than costs in relation to benefits or effectiveness.

# Implementation Of Performance-Based Teacher Education: Strategies

It would certainly be nice to think that for every issue there is an answer and for every problem there is a solution. Often, however, this is not the case; a situation that may be quite frustrating to someone directly involved with the implementation of a PBTE program. Fortunately, several universities, colleges, and education agencies across the country are currently engaged in PBTE program implementation and they are facing the many problems as well as seeking practical solutions to them. By focusing on the aforementioned areas of concern as they relate to implementation strategies, it is hoped that some of the mystery associated with PBTE may be removed. Much of the discussion that follows has been generated by vocational teacher educators. Thus, it is hoped that thoughts about implementation may be presented that have a great deal of relevance for those engaged in vocational teacher education.*

## Identification Of Competencies

There are many ways that teacher competencies may be identified. Houston (1972) indicates several approaches to specifying teacher competencies for use in a PBTE program. These include

program translation, task analysis, needs of school learners, needs assessment, theoretical examination, and the cluster approach. These may be employed individually or in combination to determine what competencies are to be taught in a particular PBTE program. A basic question should, of course, be asked of any competency identification process. Are competencies identified that are actually important to the successful teacher? The model curricula project conducted by The Center for Vocational and Technical Education asked this question and provided answers in several recent reports (Cotrell, et al., 1971-72). Report V lists 384 performance-oriented general objectives that should be of much value to persons who are planning PBTE programs for vocational and technical teachers. Each general objective contains a performance element that has been judged important to successful teachers in two or more of the various vocational service areas. It is strongly recommended that vocational teacher education faculties examine these competencies as they begin the process of establishing a PBTE program.

Some states, regions, and teacher education institutions may desire to develop instructional and/or certification priorities with regard to competencies. For example, a state that serves primarily rural school systems may consider certain competencies more important than would a more populous state and vice versa. Additionally, it may be desired that a priority set of competencies associated with beginning teaching be identified from a master list. Several states have made use of the 384 performance elements identified in Center research to establish their particular priorities for vocational teacher education. Very recently, for example, the Texas Education Agency utilized these performance elements in a study to determine their statewide vocational teacher education needs (Pope, 1973). The results of this investigation should provide valuable input for the development of PBTE programs for vocational teachers across the state.

In many cases, priorities are established at the university or college level. At the University of Michigan, for example, it was felt that some of the 384 performance elements might be more important to the preservice occupational teacher while others could be taught after the person begins teaching (Vogler, 1972). Additionally, time constraints necessitated that decisions be made regarding the extent to which each performance element contributes to teacher success. Figure 2 provides a graphic representation of these priorities and how they might relate to each other.

By employing the grid in Figure 2, vocational teacher educators should be better able to establish which competencies make the greatest contribution and where. Then, assuming that certain constraints do not permit all competencies to be taught, a faculty will be able to focus on those that should do teachers the most good.

Another approach to the establishment of priorities involves application of the DELPHI Technique. This method, originally developed to obtain group opinions about defense problems, has been since used by educators to determine educational goals and objectives. The DELPHI Technique allows for a great deal of faculty involvement in teacher education curriculum decision-making and keeps each faculty member constantly aware of the reactions of others. Through successive rounds of respondent ratings, consensus may evolve with regard to priorities of teacher competencies (Zimpher, 1973).

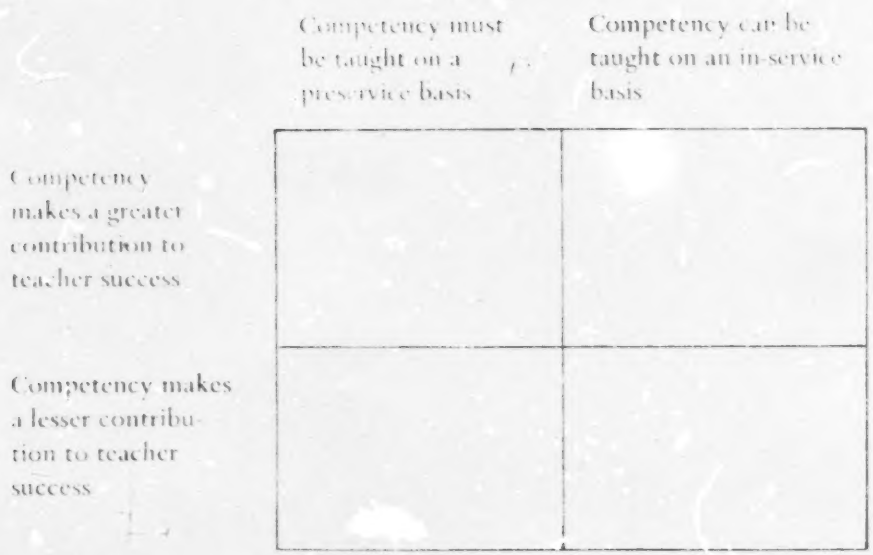
Competency must be taught on a preservice basis
Competency can be taught on an in-service basis
Competency makes a greater contribution to teacher success
Competency makes a lesser contribution to teacher success

Figure 2. Establishing Vocational Teacher Education Program Priorities

Instructional Materials

After valid competencies are selected for a PBTE program, the next logical step is to provide means by which these competencies may be taught. Typically, modules are used instead of traditional instruction to accomplish this task. The modular approach enables PBTE programs to be more flexible in meeting the needs of students and providing self-paced instruction. Although modules may be identified by many "brand names," there are some basic standards that can provide guidance for those who are planning to implement PBTE. Some of the questions that we are asking or plan to ask about modules currently under development at The Center focus on instructional content while others deal with acceptability and behavior change. Initially, as modules were being developed at each of our cooperative curricula development sites (Oregon State University, University of Missouri-Columbia and their respective state departments of vocational education), every effort was made to insure that each module delivered on one or more of the 384 performance elements. Module revisions based on faculty member inputs are being conducted to make the content of each as relevant and usable as possible. Preliminary formative testing, which is currently being conducted in conjunction with Oregon State University, University of Missouri, and Temple University, involves preservice and in-service teachers in the feedback process. After each student has completed a module he/she is asked to provide information about the experience. Teacher educators who are supervising students completing the modules also provide information and interviews are conducted with some persons so that face-to-face reactions may be recorded. Feedback from the initial testing will then be incorporated into a second revision in order that each module's usability and acceptability may be refined. During the advanced formative testing, modules will be tested experimentally to determine if, in fact, they do change teacher behavior. This testing, which is to begin early next

year, will involve several additional teacher education institutions. Letters being mailed to state directors of vocational education this fall will indicate how colleges and universities may express an interest in joining with The Center for this phase of module development.

Ultimately, The Center will make available an array of some 120 mediated modules which, collectively, deliver on the previously mentioned 384 performance elements. After a particular teacher education institution has determined its PBTE objectives (i.e., competencies to be taught), specific modules may be selected from the array to fulfill these objectives. This process provides maximum flexibility of choice by each institution, with a range of adoption from none to the entire array. Colleges and universities will thus be able to build PBTE programs that meet their particular needs and, at the same time, provide instruction that has already been subjected to a number of reviews, field trials, and revisions.

## Roles Of Faculty And Students

The roles of students and faculty members are, at once, most difficult to deal with and most critical to the success of a PBTE program. Without acceptance by faculty and students, any innovative program will surely fail. What then are some of the ways that persons may be best apprised of their respective roles? Houston (1972) suggests conferences and retreats as one way to introduce PBTE concepts to people. Another approach consists of just plain active involvement by faculty. The extent to which faculty members contribute to the program will probably determine how much support they eventually give to it. Involvement of all faculty who will be associated with the program is a necessary part of implementation. Students can be oriented to PBTE by way of presentations and tours of facilities that point out its unique aspects and how it may be of value to them.

With the establishment of a PBTE program, the faculty member becomes involved in facilitating, managing, and evaluating module learning experiences and serving as a student resource. The student (preservice and in-service teacher) becomes more responsible to himself since he may proceed at his own rate and must focus on mastery instead of course grades. Although little empirical evidence is available on the acceptance of these new roles, several teacher education institutions (e.g., Burke, 1972; Getz, et al., 1973) have indicated that both faculty and students do adjust, but not as swiftly or easily as one might expect.

Our work at The Center has not been exclusively associated with module development. Recognizing the need to orient faculty and students, plans are underway to develop an "orientation to modularized instruction" booklet and similar implementation items that will assist persons in understanding what PBTE is and where they (faculty and students) fit into the entire scheme. As work continues on the testing and revision of modules, we will be attempting to establish more tangible means by which the transition from traditional to performance-based teacher education is made as smooth as possible for both students and faculty members.

Interaction With Various Groups, Institutions, And Agencies

As indicated in Figure 1, it is possible for any teacher education program to have a great deal of interaction with others. Performance-based teacher education, with its emphasis on field centered instruction and assessment in the real world, certainly qualifies in this regard. Those responsible for establishing PBTE programs should be aware that increased liaison is necessary between teacher educators, state and local education agencies, interest groups, and others within the teacher education institution itself. Representatives from these groups, institutions, and agencies who are interested in establishing and maintaining liaison could form ad hoc committees. These committees would focus on specific problems associated with PBTE that require a great deal of interaction. Certification, for example, might not be handled properly unless agreement is reached among faculty, administration, and representatives from state and local education agencies. Since changes in certification requirements could affect some teachers' livelihood, invitations to committe membership might be extended to AFT and/or NEA representatives.

As a university or college establishes PBTE field centers, close coordination with cooperating local education agencies is essential. A great deal of pioneer work in this area, which will be discussed in a later presentation, has been done by the vocational teacher education staff at Temple University. Coordination within a university or college is also extremely important. A performance-based program for vocational teachers should certainly not duplicate offerings in general teacher education. If at all possible, the entire teacher education staff should work together to build PBTE programs that are compatible. Efforts currently underway at Oregon State University to implement PBTE across the School of Education exemplify this idea. Strong leadership for this planned change is being provided by vocational teacher education faculty and administrators at Oregon State who are already engaged in the use of some PBTE materials.

Our development experiences to date have shown us that it is extremely beneficial for teacher education institutions to maintain close liaison with the state director of vocational education and his staff. Keeping state level leaders informed of developmental activities will enable them to speak on behalf of a program, should the need arise. In our cooperative work with Oregon, Missouri, and Pennsylvania we have found that leaders at the state level provide extremely valuable, pragmatic input for program development. It is strongly recommended that persons at this level play an active role in PBTE implementation.

Instructional Support

Many who are currently engaged in performance-based teacher education have indicated that a resource center contributes greatly to program success. Weber State, for example, found that their center for module dissemination, testing, and scheduling of learning experiences became the hub of operations for their total system (Burke, 1972). At Illinois State University, an information retrieval system providing a multisensory approach for many of the student learning activities became a basic part of the program (Getz, et al., 1973). In fact, as colleges and universities begin initiating PBTE programs, a need is quickly felt to establish resource centers that meet students' needs.

What are some of the considerations associated with building a viable resource center? Perhaps a primary consideration is to determine the objectives it should actually meet. Some possible objectives associated with resource centers (although not behaviorally stated) are: to serve as a center where students (preservice teachers and in-service teachers) may work on module learning experiences; to provide students with assistance in the attainment of module objectives; to make available module resources (e.g., films, videotapes, reading materials); and to conduct assessment of teaching competence. Typically, each teacher education institution would establish its own resource center objectives, document them, and then begin the planning of such an operation. Cruickshank (1973) has provided some useful suggestions for PBTE planners. He mentions that educational facilities laboratory consultants should be enlisted to aid in the conceptualization and for development of a resource center. Additionally, it is perhaps best not to be overly ambitious. Development should be conducted incrementally and in conjunction with the transition from traditional to PBTE.

A final comment regarding resource centers should be made. It is very important that faculty members be available to assist students whenever the resource center is open. The teacher's new role as a facilitator and manager of instruction dictates that students obtain assistance when they need it. Problems associated with this aspect of resource center operation may be resolved if faculty members are oriented to their respective roles and are given appropriate "credit" for the time they spend working with students.

An equally important aspect of instructional support is the task of maintaining records of student progress. With the shift from courses to modules and from grades to mastery, many may be faced with the redesign of student records systems. Perhaps one of the most ambitious efforts to meet this need is being accomplished by Wayne State University (Cook, et al., 1972). The vocational teacher education faculty at Wayne State are currently working with a computerized management information system which allows for swift and accurate recording and retrieval of student-progress information.

## Costs

Ultimately, the decision to implement PBTE may depend upon its cost. College and university administrators are keenly aware of costs associated with innovative activities and may not approve a new program if its costs are appreciably greater than an existing program. In this discussion, attention is focused on program initiation and operation costs rather than module development costs. If we may assume that Joyce's (1972) figures are accurate, development of a statewide (or national) prototype PBTE system with local options appears to be the best cost option. Thus, we hope that our developmental efforts at The Center will reduce costs associated with program implementation at the teacher education institution level. From a comparative standpoint, it is anticipated that the cost of adopting PBTE will not be prohibitive in that once it is established the cost per student should not greatly exceed that of a "good" traditional program. The transition period from a traditional to a PBTE program will probably be the most costly as it will necessarily include original purchase of all materials including modules, resources, and audiovisual equipment for student use. Additional funds will possibly be required for personnel (professional and support) and establishment of a resource center. In terms of comparative costs the following are considerations:

1. Professional staff costs will be higher during the installation period of the performance based teacher education program due to in-service preparation of faculty. Many institutions may find it necessary to convert gradually to the PBTE program, therefore necessitating that both performance based and traditional programs be offered for a period of time as parallel programs on the same campus.

2. It is anticipated that at least one extra support staff person will be required for implementing the PBTE program to manage the resource center on a continuing basis, although this person may already be available in an existing instructional media laboratory.

3. Initial costs of resources (e.g., textbooks, mediation materials) for the PBTE program will be more than the traditional program. After the initial outlay, maintenance costs should be comparable.

4. Although "good" traditional programs will have adequate audiovisual equipment, some teacher education institutions will need additional equipment for the PBTE program, especially videotape equipment.

5. Since students (preservice and in-service teachers) will be encouraged to proceed through the PBTE program at their own speed and will be permitted to "test out" of modules for which they already possess competencies, many should spend less time completing the performance-based program than a traditional program. Some, however, will find the opportunity to extend completion time attractive and delay completion beyond usual academic time periods.

6. The PBTE program is best compared in cost with the traditional program of teacher education in terms of cost effectiveness and cost-benefit. Persons contemplating the establishment of a PBTE program should consider the returns on investments. For example, what percentage of teachers prepared in a traditional program can perform certain specified competencies as compared with those prepared in a PBTE program? Even though the cost of PBTE may be higher, the return promises to be many times that of a traditional program in terms of competent teachers prepared.

## Some Final Thoughts

In this discussion we have attempted to focus on a number of key concerns about PBTE implementation. There are, indeed, many others that have not been discussed and some that have not yet been discovered. As we continue to work with teacher education institutions in the testing and refinement of performance-based modules, it is hoped that more detailed information may be gathered regarding implementation problems and solutions. Ultimately, the result will be a smoother transition between the present and the future of vocational teacher education.

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